

**PATENT**

Atty Docket No.: 100110202-1  
App. Ser. No.: 10/062,443

**REMARKS**

Favorable reconsideration of this application is respectfully requested in view of the claim amendments and following remarks. Claims 16 and 17 have been canceled without prejudice or disclaimer of the subject matter contained therein. In addition, Claims 1-8, 10-15, and 18-27 have been amended and Claims 28 and 29 have been added. Currently, Claims 1-15 and 18-29 are pending in the present application of which Claims 1, 12, and 20 are independent.

No new matter has been introduced by way of the claim amendments or additions; entry thereof is therefore respectfully requested.

**Information Disclosure Statement**

At the outset, the indication that the Information Disclosure Statements filed on February 5, 2002 has been considered is noted with appreciation.

**Drawings**

The indication that the Drawings filed on February 5, 2002 have been accepted is also noted with appreciation.

**Claim Rejection Under 35 U.S.C. §102**

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal

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Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221

USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Claims 1-3, 10, 20, and 21 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by the disclosure contained in U.S. Patent No. 6,828,675 to Memory et al. This rejection is respectfully traversed because the present invention as set forth in independent Claims 1 and 20 and the claims that depend therefrom are patentably distinguishable over the disclosure contained in Memory et al.

Claim 1 of the present invention has been amended to include, *inter alia*, that a supply line supplies cooling fluid into and out from a plurality of cold plates, where the cooling fluid supplied by the supply line flows through respective interiors of the plurality of cold plates. In addition, Claim 20 has been amended to include, *inter alia*, that cooling fluid is supplied into a cold plate from a supply line for supplying cooling fluid into a plurality of cold plates and that the amount of cooling fluid supplied into the cold plate is varied based upon at least one detected condition.

Contrary to the assertions made in the Official Action, Memory et al. fails to disclose at least the features identified above in Claims 1 and 20 of the present invention. Instead, Memory et al. discloses a cooling system containing modular cooling modules 20. As best

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shown in Figures 1 and 7 of Memory et al., each of the cooling modules 20 comprises a thermosyphon loop in which a working fluid 36 is contained. In addition, the working fluid 36 in each of the cooling modules 20 receives heat from respective electronic components 14 and transfers heat in a condenser 24, through which a cooling liquid 52 flows. The working fluid 36 in each of the cooling modules 20 and the cooling liquid 52 are separate and thus do not mix.

As such, with respect to Claim 1 of the present invention, Memory et al. fails to disclose a supply line to supply cooling fluid into and out from a plurality of cold plates, where the cooling fluid flows through respective interiors of the plurality of cold plates. Instead, and as described above, the cold plates 22 of Memory et al. are self-contained cooling modules 22 containing a working fluid 36 that flows through a loop and transfers heat with a cooling liquid 52. In this regard, cooling fluid supplied by a supply line is not supplied into and out from a plurality of cold plates, and Memory et al. does not anticipate Claim 1 of the present invention.

With respect to Claim 20 of the present invention, Memory et al. fails to disclose that cooling fluid is supplied into a cold plate and that the amount of cooling fluid supplied is varied based upon at least one detected condition. Instead, and as described above, because the cold plates 22 of Memory et al. are self-contained modules, cooling fluid is not supplied in varying amounts from a supply line for supplying cooling fluid into a plurality of cold plates. In addition, since the working fluid 36 is contained in a thermosyphon loop there is absolutely no reason to vary the amount of cooling fluid supplied into a cold plate 22 of Memory et al. For at least this reason, Memory et al. cannot anticipate Claim 20 of the present invention.

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Accordingly, Memory et al. fails to disclose each and every element claimed in Claims 1 and 20. The Examiner is thus respectfully requested to withdraw the rejection of Claims 1 and 20 as allegedly being anticipated by the disclosure contained in Memory et al., and to allow these claims. Claims 2, 3, 10, and 21 are also allowable over the disclosure contained in Memory et al. at least by virtue of their respective dependencies upon allowable Claims 1 and 20.

Claim 2, 3, 10, and 21 are also allowable over Memory et al. for additional reasons. For instance, with respect to Claim 3, Memory et al. fails to disclose a plurality of controllable valves to control the flow of cooling fluid into each of the plurality of cold plates.

**Claim Rejection Under 35 U.S.C. §103**

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

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**Claims 6, 8, 12-14, 16, 17, and 22**

Claims 6, 8, 12-14, 16, 17, and 22 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Memory et al. This rejection is respectfully traversed because Memory et al. fails to disclose the invention as set forth in independent Claims 1, 12 and 20 and the claims that depend therefrom.

Memory et al. fails to disclose all of the features of independent Claims 1 and 20 for at least the reasons set forth above. As such, Memory et al. also fails to disclose the features of Claims 6, 8, and 22. At least by virtue of their dependencies, Claims 6, 8, and 22 are also allowable over Memory et al.

With regard to Claim 12 of the present invention, Memory et al. fails to disclose means for supplying cooling fluid into a plurality of means for absorbing heat, where the means for supplying cooling fluid is configured to variably supply cooling fluid into the plurality of means for absorbing heat. Instead, Memory et al. discloses that the cold plates 22 are cooling modules 20 having enclosed thermosyphon loops for containing a working fluid 36 therein. As such, Memory et al. does not disclose each and every feature claimed in Claim 12 of the present invention.

The Official Action asserts that it would have been obvious to a routineer in the art that electronic connections are inherent in Memory et al. However, the Official Action does not argue that variably supplying cooling fluid supply into the cold plates 22 of Memory et al. would be obvious. It is therefore respectfully submitted that the present invention as set forth in Claim 12 is patentably distinguishable over the disclosure contained in Memory et al.

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Accordingly, the Examiner is respectfully requested to withdraw the rejection of Claim 12 and to allow this claim. Claims 13 and 14 depend upon allowable Claim 12 and are also allowable over Memory et al. at least by virtue of their dependencies.

**Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27**

Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Memory et al. in view of U.S. Patent No. 6,408,630 to Macias et al. This rejection is respectfully traversed because Memory et al. and Macias et al., considered singly or in combination, fails to disclose the invention as set forth in independent Claims 1, 12 and 20, and thus Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27.

Initially, it is respectfully submitted that Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27 are allowable over the disclosures contained Memory et al. and Macias et al. at least by virtue of their respective dependencies upon allowable Claims 1, 12, and 20. These claims, however, are also allowable over Memory et al. and Macias et al. for at least the following reasons.

With regard to Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27, the Official Action correctly notes that Memory et al. fails to disclose a computer enclosure cooling unit having an electronic controller. However, the Official Action incorrectly concludes that the cooling system of Memory et al. may somehow be modified to include an electronic controller as disclosed in Macias et al. It is respectfully submitted that this conclusion is improper for a number of reasons.

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Memory et al. discloses self-contained and individual cooling modules 20 that are insertable into respective condensers 24 where working fluid 36 transfers heat with a cooling liquid 52. In addition, the working fluid 36 and the cooling liquid 52 do not intermix inside the condenser 24. In one regard, therefore, and as disclosed in Memory et al., the cooling modules 20 may be added or removed in a relatively easy manner. In another regard, the cooling modules 20 contain a set amount of working fluid 36 and thus do not receive or output any of the working fluid 36. As such, there is absolutely no reason stated in Memory et al. to vary the amount of working fluid 36 inside each of the cooling modules 20. In addition, there is therefore absolutely no reason in Memory et al. to include an electronic controller for controlling the supply of cooling fluid into each of the plurality of cold plates as set forth in Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27 of the present invention.

The proposed modification of Memory et al. based upon the disclosure contained in Macias et al. would also be unobvious because the proposed combination would destroy the intended functionality of the Memory et al. cooling system. More particularly, the proposed combination would require that the modularity of the cooling modules 20 be defeated, which would clearly destroy the intended functionality of the Memory et al. cooling system.

For at least the foregoing reasons, the proposed combination of Memory et al. and Macias et al. is improper, unobvious, and would not yield the present invention as set forth in Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27. The Examiner is therefore respectfully requested to withdraw the rejection of Claims 4, 5, 7, 9, 11, 15, 18, 19, 23, 24, 25, and 27 and to allow these claims.

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**Newly Added Claims**

New Claims 28 and 29 have been added to further define the invention. Claims 28 and 29 are also allowable over the cited documents at least by virtue of their dependency upon allowable Claim 20.

**Conclusion**

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Chandrakant D. Patel et al.

Dated: April 7, 2005

By



Timothy B. Kang

Registration No.: 46,423

MANNAVA & KANG, P.C.  
8221 Old Courthouse Road  
Suite 104  
Vienna, VA 22182  
(703) 652-3817  
(703) 880-5270 (facsimile)